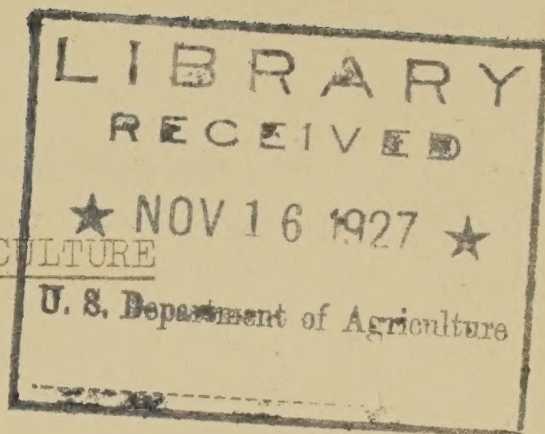


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UNITED STATES DEPARTMENT OF AGRICULTURE

Extension Service
Office of Exhibits

A Summary of the Exhibit

EXPLOSIVE DUST - An Industrial Menace

A special exhibit showing the explosive nature of accumulated industrial dust and suggestions for preventing dust explosions.

Specifications.

Floor space required - width - - -12', depth 9'
Wall space required - - - - - None.
Shipping weight - - - - - 1533 lbs.
Electrical requirements - - - - - 110 volt A. C.
current for two motors, 1/8 H. P. and 1/2 H. P.
and 1600 Watts needed for lights.

EXPLOSIVE DUST, AN INDUSTRIAL MENACE

How It Looks

The central feature of this mechanical booth shows in a realistic way the almost total destruction of a 10,000,000 bushel grain elevator by a dust explosion. Pictures of a real elevator taken from actual photographs made before and after the explosion have been painted on special screens about five feet long by two and one-half feet high. By means of a flasher mechanism in a box under the booth lights flash first on the picture of the elevator as it appeared before the explosion. Then there is a blaze of red lights and a resounding crash from the noise mechanism as the elevator appears to be blown apart by a dust explosion. This effect lasts only a second when the lights are flashed on the screen containing the picture of the ruins, while shadows passing across the picture give the effect of smoke rolling away. A \$4,000,000 elevator which took three years to build is destroyed in a few seconds by a dust explosion.

The pictures are painted on open mesh cloth, and by special arrangement of light one picture can be seen through another. To produce the pictures in a subdued light curtains of brown burlap are hung about the opening showing the pictures, also below to hide the flasher mechanism from view.

In case the noise becomes annoying or monotonous, the mechanism can be disconnected without interfering with the lighting effects.

On the right and left side of this booth are two panels, on each of which are mounted five colored photographs with descriptive wording below.

The left panel deals with some of the causes of dust explosions, such as an overheated electric light bulb, an electric arc, sparks of static electricity, poor housekeeping and friction of belts. Below is a short paragraph telling just what conditions are necessary to have a dust explosion.

The right panel deals with the prevention of dust explosions such as pneumatic dust removal, guarded dust proof globes on lamps, dust collection at point of production, use of fire-resistive material, good ventilation, and use of flue gas in grinding and pulverizing operations. Below the pictures is an appeal to all who work in industrial plants to control all dust, keep fire away, and to avoid carelessness.

Where to get Information

Information on dust control and removal can be had by writing to the Department of Agriculture for the following publications which are sent free of charge:

Bul. 379 - "Dust Explosions and Fire
in Grain Separators in the
Pacific Northwest"

By David J. Price

E. B. McCormick

Aug. 4, 1916

Dept. Cir. 171 - "Unprotected Electric Lights"
By David J. Price
Hylton R. Brown May, 1921.

Dept. Cir. 271 - "Grounding Cotton Gins to
Prevent Fires."
By Harry E. Roethe May, 1923.

Dept. Bul. 1373 - "Dust Control in Grain
Elevators"
By Hylton R. Brown
J. O. Reed Feb., 1926.
